IN THE CLAIMS:

Please amend claims as follows.

1. (currently amended) An imaging device to be used with millimeter and/or sub-millimeter radiation comprising at least a pair of substrates, at least one of which is patterned on at least one surface with a patterning defining at least one radiation detector, each radiation detector comprising :

- an antenna adapted to receive millimeter ~~millimetre~~ and/or sub-millimeter electromagnetic radiation,
- a mixer channel coupled to said antenna and in communication with a via extending through a substrate for connection to a signal output, a mixer comprising filters being mounted in the mixer channel for extracting an intermediate frequency signal in dependence upon said radiation received by the antenna.
- a waveguide structure coupled to said mixer and having a signal input for connection to a local oscillator, wherein the mixing channel intersects the local oscillator waveguide at an acute angle.

2. (original) An imaging device as in claim 1, wherein each substrate of the said pair of substrates is patterned on at least one surface with co-operable patterning defining in combination said radiation detector.

3. (previously presented) The imaging device as in claim 1, wherein said patterning defines a plurality of radiation detectors.

4. (previously presented) The imaging device as in claim 1, wherein it comprises at least a third substrate, said three substrates defining two rows of radiation detectors.

5. canceled

6. (previously presented) The imaging device as in claim 1, wherein the antenna is comprised of a horn antenna (14) and of an antenna waveguide (15) that is coupled to said horn antenna (14) and that intersects the mixing channel at an angle of 90°.

7. (original) The imaging device as in claim 6, wherein the antenna waveguide is offset from the horn antenna axis by an acute angle.

8. (original) The imaging device as in claim 7, wherein the local oscillator waveguide is parallel to the horn antenna axis.

9. (original) A process for making a substrate for an imaging device according to any one of the preceding claims, comprising the following steps:

- providing on a surface of a substrate a first (31), a second (32) and a third patterned masks (33), said first mask (31) having a first pattern corresponding to a first region of each radiation detector with the highest etch depth, said second mask (32) having a second pattern corresponding to said first region and to a second region of each radiation detector with an intermediate etch depth, and said third mask (33) having a third pattern corresponding to said first and second regions and to a third region of each radiation detectors with the shallowest etch depth.
- performing a first etch through the first pattern of the first mask (31) at a first depth that is substantially equal to the difference between the highest etch depth and the intermediate etch depth.
- removing said first mask (31)
- performing a second etch through the second pattern of the second mask (32) at a second depth that is substantially equal to the difference between the intermediate etch depth and the shallowest etch depth.
- removing said second mask (32)
- performing a third etch through the third pattern of the third mask (33) with an etch depth that is substantively equal to the shallowest etch depth.

10. (original) A process as in claim 9, wherein said first (31), second (32) and third (33) masks an each laid on top of the next and in direct contact with the adjacent mask.

11. (currently amended) A process as in claim 10, wherein one of said masks (31, 32, 33) is a positive resist, or a metal mask, wherein another mask is a negative resist mask or an amid mask, and yet another mask is of silicon dioxide or aluminum ~~aluminium~~ nitride.

12. (previously presented) A process as in claim 10, wherein said first region corresponds to said antenna.

13. (previously presented) A process as in claim 10, wherein said second region corresponds to at least part of said waveguide structure.

14. (previously presented) A process as in claim 10, wherein said third region corresponds to said mixer channel.